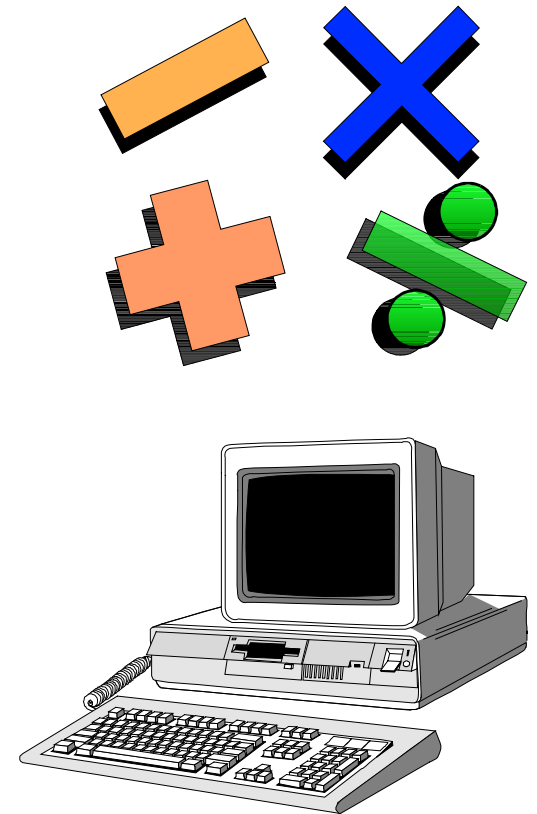

MICROSOFT EXCEL

SPRING 2009
BASIC TRACK



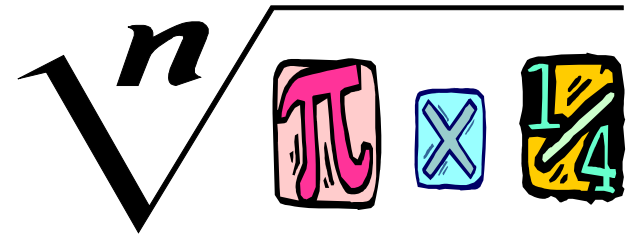
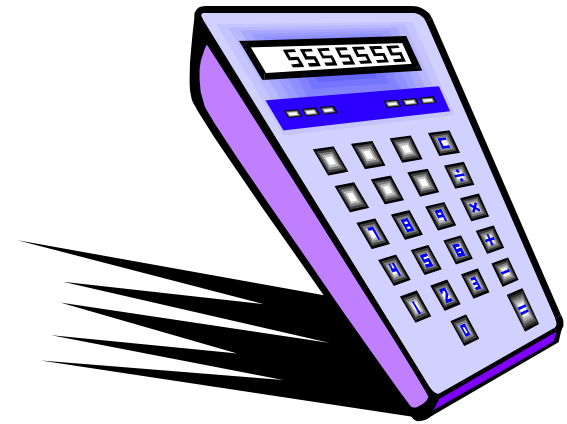
WHAT IS EXCEL?

- It is a spreadsheet software from Microsoft.
- Which bring us to the question, what is a spreadsheet?
 - A spreadsheet is defined as worksheet arranged in rows and columns for recording financial data for comparative analysis.
 - Excel helps to organize the data, and then summarize, compare and present the data graphically.



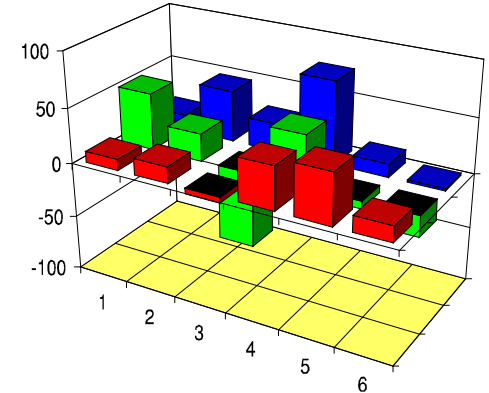
WHAT IS EXCEL?

- Some say that a hand-held calculator can be used instead of spreadsheets for mathematical computations.
- However, the calculator has its disadvantages:
 - The calculator becomes less convenient as you deal with more numbers and the calculations get more complex.
 - For instance, you may want to display sub-totals by category and then a grand total.
 - The numbers entered are stored, but are not visible and their accuracy can't be verified.
 - It is difficult to change the numbers without doing the entire calculation.



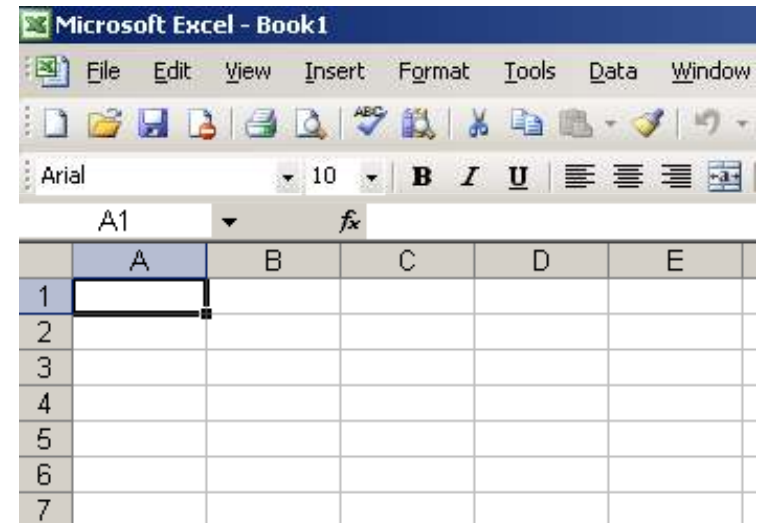
WHAT IS EXCEL?

- All these limitations with the hand-held calculators are overcome by Excel and any other spreadsheet software.
- Furthermore, Excel offers extra functionality such as:
 - Calculate results quickly and accurately.
 - Recalculate easily
 - Perform what-if analysis
 - Create variety of business scenarios
 - Helps you analyze different possible outcomes
 - Complete complex math equations
 - Built-in functions, “just fill in the blanks”
 - Create charts
 - Create attractive output



MS-EXCEL BASICS

- It creates an onscreen spreadsheet called worksheet.
- This worksheet is based on a grid of columns and rows.
- Each column is lettered and each row is numbered.
- The intersection of a column and a row is called a cell.
- Each cell has a unique “address” named the cell reference and it’s derived from its column and row location.



MS-EXCEL BASICS

- A cell can contain a number, text or a formula.
- **Numbers** are values that can be used in calculations.
- **Text** is mainly used for labels that identify the numbers and for the worksheet title.
- **Formulas**, on the other hand, tell the spreadsheet *how* to use the contents of cells in calculations.
 - These contents can be used in additions, subtractions, multiplication, division and more complex formulas.

EDITING CELL ENTRIES

- Double click the cell that you want to edit.
- Type text to enter a label or type a number to enter a value.
- Press ENTER to accept what you typed or press ESC to cancel what you typed.
- Just below the toolbar, you also see a button with a green checkmark ✓ and a button with a red X.
- You can use them instead of the ENTER and ESC keys.
- The ✓ accepts the changes and the X cancels what you typed.

FORMULAS

- In the following sample worksheet:

| B5 | | <i>f_x</i> | =B3-B4 |
|----|----------------------|----------------------|--------|
| | A | B | |
| 1 | Yearly Budget | | |
| 2 | | | |
| 3 | Net Income | 55,535.50 | |
| 4 | Expenses | 22,321.20 | |
| 5 | Savings | 33,214.30 | |

- We can see that some of the cells (from A3 to A5) have text that describes the contents of cells B3 through B5.
- The cells in column B contain numbers.
- However, in cell B5, we could have a formula that subtracts the contents of cell B4 from B3, displaying the result in B5.

FORMULAS

- Using formulas gives us a great advantage over just typing the correct result of an operation.
 - In our previous example, if our values of **Net Income** and **Expenses** change and there is no formula, the savings must be retyped.
- In contrast, with a formula the **Savings** value automatically change, if the income or expenses (or both) change.
- In Microsoft Excel, formulas begin with an equal sign “=”.

FORMULAS

- After typing the special symbol, we include reference to other cells.
- These references allow anyone to easily change the data and recalculate the results.
- For our previous example, the formula to compute the Savings would be: **=B3 – B4**.
- As long as you have the formula no matter how many times you change the values in B3 (income) or B4 (expenses); the formula will always recalculate.

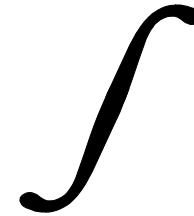
| | | | |
|----|---------------|---|------------|
| B5 | | ▼ | f/x =B3-B4 |
| | A | B | |
| 1 | Yearly Budget | | |

PRACTICE #1

1. Create a Shortcut of Microsoft in Excel in the Desktop.
 2. Create an **Excel** folder if you don't have it already in your disk.
 3. Start Excel 2003.
 4. Type in **A1**: Annual Budget
 5. Type in **A3**: Net Income
 6. Type in **B3**: 55,535.50
 7. Type in **A4**: Expenses
 8. Type in **B4**: 22,321.20
 9. Type in **A5**: Savings
 10. Type in **B5**: =B3 – B4
 11. Change the value of **B3** to 20,537
 12. Change the value of **B4** to 37,000
 13. (Optional) Save your workbook as **WorkFormula** in your disk, inside the **Excel** folder (if that folder doesn't exist, create it).
-

FUNCTIONS

- They are a special type of formulas
- A function is predefined formula in which you only supply the argument and it will return the result.
- For example, suppose you want to compute the average of these numbers: 5, 20, 10, 35 and 15.
- And you have them in the following spreadsheet:
- You can first create a formula in **B6** that would compute the sum of the values:
= B1 + B2 + B3 + B4 + B5
- Then you can have another formula in **B7** that would divide the result by 5:
= B6/5



| | A1 | | f _x | Fi |
|---|--------------|--|----------------|----|
| | A | | B | |
| 1 | First Score | | 5 | |
| 2 | Second Score | | 20 | |
| 3 | Third Score | | 10 | |
| 4 | Fourth Score | | 35 | |
| 5 | Fifth Score | | 15 | |
| 6 | Total | | 85 | |
| 7 | Average | | 17 | |

FUNCTIONS

- There is a function called AVERAGE (arg1, arg2, ...) that computes the average.
- You don't have to create a formula that will first add the numbers and then divide them.
- AVERAGE will do that for you; you must only supply the formula:

=AVERAGE (B1,B2,B3,B4,B5)

| B7 | | fx =AVERAGE(B1:B5) | | |
|----|--------------|--------------------|---|---|
| | A | B | C | D |
| 1 | First Score | 5 | | |
| 2 | Second Score | 20 | | |
| 3 | Third Score | 10 | | |
| 4 | Fourth Score | 35 | | |
| 5 | Fifth Score | 15 | | |
| 6 | Total | 85 | | |
| 7 | Average | 17 | | |

PRACTICE #2

1. Create a new workbook.
2. Type 5 in **B1**
3. Type 20 in **B2**
4. Type 10 in **B3**
5. Type 35 in **B4**
6. Type 15 in **B5**
7. Type First Score in **A1**
8. Type Second Score in **A2**
9. Type Third Score in **A3**
10. Type Fourth Score in **A4**
11. Type Fifth Score in **A5**
12. Type = **SUM(B1,B2,B3,B4,B5)** in **B6**
13. Type = **AVERAGE(B1:B5)** in **B7**
14. Save your workbook as **WorkFunction** in your disk, inside the **Excel** folder.

WORKING WITH RELATIVE AND ABSOLUTE REFERENCES

■ Relative Reference:

- When you copy a formula or function from one cell and paste it into another, a cell reference within a formula automatically changes to reflect the formula's new location.

| ESSEX COMPUTERS | | |
|--------------------|--------------|--------------|
| Monthly Sales 2001 | | |
| | | |
| Item | April | May |
| Monitor | \$ 19,245.30 | \$ 9,421.99 |
| Mouse | \$ 340.15 | \$ 180.23 |
| Keyboard | \$ 249.43 | \$ 120.99 |
| | | |
| Total | \$ 19,834.88 | <copy/paste> |
| | | |
| | | |
| | | |
| | | |

WORKING WITH RELATIVE AND ABSOLUTE REFERENCES

■ Absolute Reference:

- it is a cell reference that will always cite a specific cell when the formula is copied and pasted.

| ESSEX COMPUTERS | | |
|--------------------|---------------------|--------------|
| Monthly Sales 2001 | | |
| | | |
| Item | April | May |
| Monitor | \$ 19,245.30 | \$ 9,421.99 |
| Mouse | \$ 340.15 | \$ 180.23 |
| Keyboard | \$ 249.43 | \$ 120.99 |
| | | |
| Sub Total | \$ 19,834.88 | \$ 9,723.21 |
| Total | \$ 19,375.54 | <copy/paste> |
| | | |
| Deduct | 459.34 | |
| | | |

PRACTICE #3

1. Create a new workbook.
2. Type **ESSEX COMPUTERS** in **A1**.
3. Type **Item** in **A4**, **April** in **B4**, **May** in **C4**.
4. Type Monitor in **A5**, \$19,245.30 in **B5**, \$9,421.99 in **C5**.
5. Type Mouse in **A6**, \$340.15 in **B6**, \$180.23 in **C6**.
6. Type Keyboard in **A7**, \$249.43 in **B7**, \$120.99 in **C7**.
7. Type Sub Total in **A9**
8. Type a function in **B9** to add the contents of **B5**, **B6** and **B7**.
9. Copy and Paste the function from **B9** to **C9**.
10. Type Total in **A10**, type Deduct in **A12**, and type \$459.34 in **B12**.
11. Type the formula =B9 - \$B\$12 in **B10**.
12. Copy and paste previous formula in **C10**.
13. (Optional) Save the workbook as EssexComputers2001 inside your Excel folder in your disk.

SAVING AND CLOSING A WORKBOOK, AND QUITTING EXCEL

1. Click on the Floppy disk icon or go to the **File** menu and click **Save**.
 2. In the **File name** textbox, type the name that you want to give to your workbook.
 3. Click on the **Save in** list arrow and select the storage device where you want to save your workbook (A: 3 ½ Floppy Drive, or C:)
 4. Click on the **Save** button.
 5. Click **File** on the menu bar, and then click **Close**.
 6. Click **Yes**, if necessary (if you want to save your work)
 7. Click **File** on the menu bar, and then click **Exit**. Microsoft Excel will terminate.
-

NAMING A SHEET, AND PREVIEWING AND PRINTING A WORKSHEET

■ Naming a Sheet

- ❑ Each workbook by default has three worksheets named Sheet1, Sheet2, and Sheet3.
- ❑ You can rename any of the sheets by:
 - Double-click the sheet that you wish to rename.
 - Type the new name.
 - Press **ENTER**.

■ Previewing/Printing

1. Make sure the printer is on and contains paper.
 2. To preview your worksheet before you print it, click the **Print Preview** button in the toolbar or select **File** on the menu bar, then click **Print Preview**.
 3. To print your worksheet, click the **Print** button in the toolbar or select **File** on the menu bar, then click **Print**.
-

COPYING AND MOVING CELL ENTRIES

1. Click the cell, which content you wish to copy or move.
2. Click **Edit** on the menu bar and select **Copy** or **Cut** (to copy or to move respectively).
3. Click **Edit** on the menu bar and select **Paste**.

- **NOTE:** To select more than one cell to copy or move them:
 - ❑ Click and hold the left mouse button.
 - ❑ Drag it until you highlight all the cells that you want.
 - ❑ Perform steps 2-3.

PRACTICE #4

1. Type **Monthly Sales 2001** in **A2**
2. Click **Print Preview** to see how it would look like on paper. **DO NOT PRINT.**
3. Change the value of **B6** to **\$320.00**
4. Type June in **D4**
5. Type 7995.30 in **D5**
6. Type 120.99 in **D6**
7. Copy and paste the value from **B7** to **D7**
8. Copy and paste the Sub Total formula to June.
9. Copy and paste the Total formula to June.
10. Rename Sheet1 as **Essex2001**.
11. Re-save the worksheet.

RANGES

- A range like **E6:H6** means that we are including cells **E6**, **F6**, **G6**, and **H6**.
 - In other words, the row number remains constant, but the column changes.
 - A range like **E6:E10** means that we are including cells **E6**, **E7**, **E8**, **E9**, and **E10**.
 - In other words the column remains constant, but the row number changes.
 - A range like **A1:B3** means that we are including cells **A1**, **A2**, **A3**, **B1**, **B2**, and **B3**.
 - In other words, both row number and columns changes.
 - You can select ranges by:
 - ❑ clicking and holding the mouse button on the first cell and dragging it to the cells that you want to include in the range.
 - ❑ Release the button when you finish making a selection.
-

FORMATTING VALUES

- If you want to put a \$ sign to numeric values to indicate money amounts, you can use the \$ button located in the toolbar.
 - Select a cell or a range of cells and click the button.
 - If you want to put a comma as a thousand separator sign to numeric values, you can use the “,” button located in the toolbar, to the right of the \$ button.
 - Select a cell or a range of cells and click the button.
 - If you want to increase or decrease the number of decimal places for a numeric value, use the two “zero” buttons to the right of the “,” button in the toolbar.
 - The first button (with an arrow pointing to the left) increases the number of decimal positions as many times as you click it.
 - The other button decreases the number of decimal positions until you reach zero decimal places.
-

USING FONTS AND FONT SIZES, LABEL ATTRIBUTES AND ALIGNMENT

- **Fonts**

1. Click on a cell or select a range of cells.
2. Click **Format** on the menu bar, and click **Cells**.
3. Click the **Font tab** in the Format Cells dialog box.
4. Select the desired Font type, style, size, color, underline style and effects.
5. Click **OK**.

- **Attributes and Alignment**

1. Click on a cell or select a range of cells.
 2. To underline the contents of the cell(s), click the **Underline button U** on the formatting toolbar.
 3. To boldface the contents of the cell(s), click the **Bold button B** on the formatting toolbar.
 4. To put the contents of the cell(s) in italics, click the **Italics button I** on the formatting toolbar.
 5. To center the contents of a cell(s) within that cell(s), click the **Center button** on the formatting toolbar. Similar procedure for Align Left and Align Right.
-

ADJUSTING COLUMN WIDTHS

1. Click on the letter of the column that you wish to adjust. The entire column should be highlighted.
2. Right-click. A pop up menu appears with several menu options.
3. Click **Column width**.
4. Type the column size that you want and press **ENTER**.

INSERTING AND DELETING ROWS AND COLUMNS

1. Click on the row number that you wish to delete or insert a new row above it. The entire row should be highlighted.
 2. Right-click the highlighted row. A pop up menu appears with several menu options.
 3. Click **Insert**. A new row should appear above the highlighted row.
 4. To delete a row, repeat steps 1 and 2, and then click **Delete**.
- **NOTE: You can select more than one row or column at the same time.**

TIPS FOR CREATING A WORKSHEET

- Visualize your worksheet
 - Have a clear idea of its purpose
 - How will data fit into columns and rows
 - Where would labels be located
 - Enter numbers and labels in the cells and then enter the formulas.
 - Format the worksheet
 - Font Style and Sizes (similar to word processing formatting)
 - Color
 - Graphics and Charts
 - If you want to display it on the wall, “make everything bigger”.
 - Test the worksheet
 - Revise your results to see if they “make sense”
 - Remember, the person or company that creates the worksheet is the one responsible and to be held liable in court if something “bad” happens.
 - Save and Print the worksheet
-